



**Northumbria  
University**  
NEWCASTLE



## A Day in the Life of a Secondary School Pupil in Relation to School Food

Authors: Professor Greta Defeyter, Professor Joyce Yee, Dr Nicholas Spencer & Dr Emily Round

The Healthy Living Lab, Northumbria University

<https://www.northumbria.ac.uk/takeontomorrow/it-is-time/holiday-activity-and-food-programmes>



Published 30<sup>th</sup> July 2024

## **Introduction:**

In a recently published book chapter, titled, 'Hunger in the UK Classroom', Defeyter et al. (2024) provide a succinct account of school meals programmes worldwide and how they have become the world's most extensive social safety net (World Food Programme, 2022), with nearly half of the world's school children, receiving a meal at school every day. However, this growth came to a halt by the arrival of the COVID pandemic, which saw 199 countries implement school closures (Defeyter et al., 2024). The authors argue that now is the time to rebuild this social safety net that drives social protection (household food security), education, agriculture (rural economy and food systems) and health and nutrition (dietary diversity, physical and mental growth, and development). The book chapter offers a historical account of the UK school food programme, one of the longest serving school meals systems worldwide, and critically evaluates the most recent academic papers on school breakfast clubs, school meals, packed lunches, and holiday provision.

A growing body of research shows a positive association between school meals and improved health, behaviour, and attainment (e.g. Holford & Rabe, 2020; Spence et al., 2014). In terms of nutrition, children who consume school lunches have significantly better diets than otherwise, with school lunches often being better nutritionally than packed lunches from home (Evans et al., 2020). Packed lunches tend to be of lower nutritional value, especially in terms of total sugars, salt, protein, fibre, zinc, Vitamin A, iron and folate than school meals (Stevens et al., 2013; Evans et al., 2020). They are more likely to contain confectionary, savoury snacks and sweetened drinks, and less likely to contain vegetables than school meals. Moreover, increased school lunch quality is associated with improved concentration and being 'on-task' in the classroom (Golley et al., 2010; Storey et al., 2011).

Consequently, school lunches are thereby associated with improved educational attainment (Cohen et al., 2021; Chefs in Schools; 2021). However, school meals are not delivered in a consistent way both across and within local authorities, which can impact the type, quality, and quantity of food on offer, and research shows that parent and pupils' satisfaction with the 'healthiness' of school food is low, particularly within secondary school settings (Day et al., 2015; Hart & Page, 2020). Furthermore, the majority of research studies conducted on school food and food systems has been conducted in primary schools and far fewer studies (e.g. Rose et al., 2023; Lalli et al., 2024) have explored how the school food system operates in secondary school.

School lunches are not the only food served in secondary schools. Indeed, many secondary schools now provide food at school breakfast clubs, breaktime and at after school clubs. The academic research pertaining to breakfast shows clear health and cognitive benefits for breakfast consumption versus breakfast skipping and there is some evidence that school breakfast clubs support improved dietary intake, socialisation, attendance, and educational attainment (see Defeyter et al, 2024 for a summary of key papers); and after school clubs improve dietary intake and socialisation (Graham, 2014; Future Foundations Play Verto Can Team Survey, 2023).

As part of the national drive to improve child health and significantly reduce the number of children with obesity by 2030, increased emphasis is being placed on the importance of food education and food provision in schools. This is particularly relevant to schools based in areas of multiple deprivation where childhood obesity figures are high (Office for Health Improvement and Disparities, 2022/2023). Due to existing infrastructure, such as large spaces and integrated food systems, schools are typically well-positioned to host food-related interventions (Walker et al., 2021), and academic research has shown the subsequent benefits of school-based food education such as improved food awareness, cooking skills, self-esteem, and willingness to try new foods (Ensaff et al., 2015; 2017).

Moreover, a whole-school approach (Dimbleby, 2013; Dimbleby, 2021) to food education is beneficial to improvement in such outcomes. However, the literature shows that many schools fail to utilise a whole-school approach; for instance, some schools teach the importance of healthy eating whilst providing treats, which were high in fats and sugars, as rewards. In addition, significant variation has been noted across schools in terms of delivery quantity, quality and content of school lunches and nutritional education. This suggests that co-designing ‘for difference’ in terms of pupils, staff, geographic location, culture, and values may be important considerations at the local level. There is little doubt that recent nation-wide increases in labour costs, food, and fuel inflation, have resulted in increased pressures for school caterers to deliver nutritious, sustainable food in schools (Defeyter, Stretesky, & Capstick, 2023). The issue of properly funding the state school meal system falls outside the remit of the present study, but if this issue is not addressed it is difficult to see how caterers and schools can improve the quality and quantity of the food provided across all state-funded schools across England. Addressing the school food funding system, revising school food standards, and ensuring an effective monitoring system that will enable caterers to provide a sustainable and quality school food service that promotes healthy eating in our children and young people is crucial (Eddy et al., 2024). Developing such a system can be informed through exploring what the school day looks like through the lived experiences of pupils, school staff and catering staff (i.e. the voices of lived experiences).

As such, it is important to conduct research which explores how to re-design the school day to improve school meal provision and dietary intake to support pupil’s health and wellbeing, and educational attainment. Prior research has demonstrated that the co-production of services through the inclusion of the service user’s voice and voices from within the community where services are delivered and the sharing of knowledge and provision of valuable insight leads to better policies and services which benefits communities (Attree et al, 2011; Farmer et al., 2018; McGrath et al., 2022).

Working in collaboration with caterers, school staff, public health, and VCS organisations and other academic colleagues the current research project will use participatory co-design methods to capture the voices of young people, school staff and key stakeholders from relevant organisations to engage

participatory research that focuses on co-designing a creative framework for the incorporation of food and food education into the school day.

### **Aims and Objectives:**

The aim of this study is to co-explore knowledge and realities, co-produce materials, and co-design (with young people attending a secondary school in County Durham, school staff and key stakeholders) a framework on how to best incorporate food, in terms of access, quality, provision etc. into the school day. We aim to understand how we, as a group, can improve school meal uptake and individual dietary intake during the secondary school day to support pupil's health, wellbeing, attendance, and educational attainment. The co-developed framework will generate innovative and creative solutions to some of the current issues regarding school food within the school day as noted within the research literature.

There are no research hypotheses or research questions for this study, rather the study is one of appreciative, creative enquiry. Our aim is to understand the different experiences of young people in relation to food in school, and to use this to better address their needs in collaborative creative enquiry with staff and other stakeholders.

### **Methods:**

#### **Design:**

This study employed qualitative and participatory research methods. Qualitative data were collected in a two-day rapid co-design workshop at one secondary school in County Durham. Young people and school staff generated the research questions and topics that they wanted to focus on. The workshops were facilitated by pre-designed creative activities and templates that provided structure to workshops.

#### **Participants**

Participants were purposively sampled and included fifteen young people from the secondary school where the co-design workshops took place, alongside fifteen adult participants consisting of school staff and key stakeholders from relevant organisations (e.g. caterers; VCS). Adoption of purposive sampling to recruit participants to this study ensured that all adult participants were involved with food and or food education within schools. Young people were purposively recruited to be representative of their year group and school. The methodology used was based on an amended version of the Design Council's Double Diamond framework (Design Council, 2004), to ensure that all participants knowledge and participation is scaffolded. This approach has been used by Defeyter (2021) in a series of studies involving stakeholders and user groups co-designing their own HAF activities, and more recently in a project using a similar methodology, involving Prof Yee, Dr Spencer

and Prof Defeyter that involved young people (13-16-year-olds) co-designing a HAF Plus framework (Defeyter et al., 2022).

### Structure of the Workshops:

The co-design workshop consisted of four stages (*Discover, Define, Develop, Deliver*). The workshops were supported by a parallel cultural probes (Gaver, Dunne, Pacenti, 1998) project undertaken by young people in the school that involved them photographing school dinners, packed lunches, and food related experiences across the school day. A range of these photos were displayed on a wall during the two workshops to provide additional context. We acknowledge that these photographs may not be representative of all food that is being served at the school, but they do provide examples of what the pupils are eating prior to, and during the school day. These photos acted as prompts and inspiration to the idea generation activity and provided a way to sensitise all the workshop participants, school staff and external stakeholders to some aspects of the pupil's experiences with food in school. A sample of photographs depicting food experiences around school breakfast time are shown in figures 1 & 2; a photo of a typical food experience around school break time is shown in figure 4; and photos showing lunch time food experiences are shown in figures 5-6.



Figures 1 & 2: School breakfast food experiences



Figure 3: A school break time food experience





Figures 4-6: Lunch time food experiences (including a packed lunch example)

### **Workshop Day 1:**

The *Discover* phase explored the relationship that young people and adults have with food, and how they view, and access food offered in school. Participants were asked to comment on the ‘Wall of Food’ to help express their relationship with food and to sensitise them to the topic of the workshop in a way that was fun and creative. This acted as an icebreaker, but also allowed the team to start

identifying different aspects that forms and effect young people's, and adult's relationship to food (Figures 7-8).



Figure 7: The Lunch Menu part of the Wall of Food



Figure 8: The entire Wall of School Food



The collages formed the basis of the next activity, which asked the young people to map out their typical 'Day in School' to start bringing out more specifics to when, where and what type of food they encounter during a typical school day. The second stage, *Define*, highlighted key themes, challenges and constraints that formed the Design Brief. Young people were asked to review the collages and then map out their 'Day in School' (Figure 9). They were then asked to come to a group agreement to their top five school food challenges (Figure 10) that led to the formation of their Design Brief. (Figure 11). Their experiences, challenges and constraints identified are summarised in Figures 12-14.

**A day in a school life in relation to food**

Journal Sheet Describe the different stages of your day	Before school	At school				After school
		Morning session	BREAK	Morning session 2	Afternoon session	
Actions, thoughts and feelings about food (What are you doing? What are you thinking? How are you feeling?)	Not hungry food not good	No	hungry not allowed told during lesson	no time to get some crosses hungry	large queue people pushing # not enough staff talks at overcrowded	walk round
Note down the a typical food that you might have during each stage? (include snacks, drinks, as well as your own made)	Someone's not food - later	X	Don't like chair biscuits	X food only water	Sordid drinks chocolate etc	X plant for tea juice top up
Where do you get your food from? (Why? How you choose those food and drink?)	Home	home/ break	home	home	X	home sisters
How do you feel when you're having your food or meal? (Why? Can you substitute? What can be changed, shapes or sizes to help communicate your feelings?)	Start to get hungry hungry	X	not hungry	X	have to eat and outside	thirsty

Figure 9: Young people were asked to map out their 'Day in the Life of School in Relation to Food'.

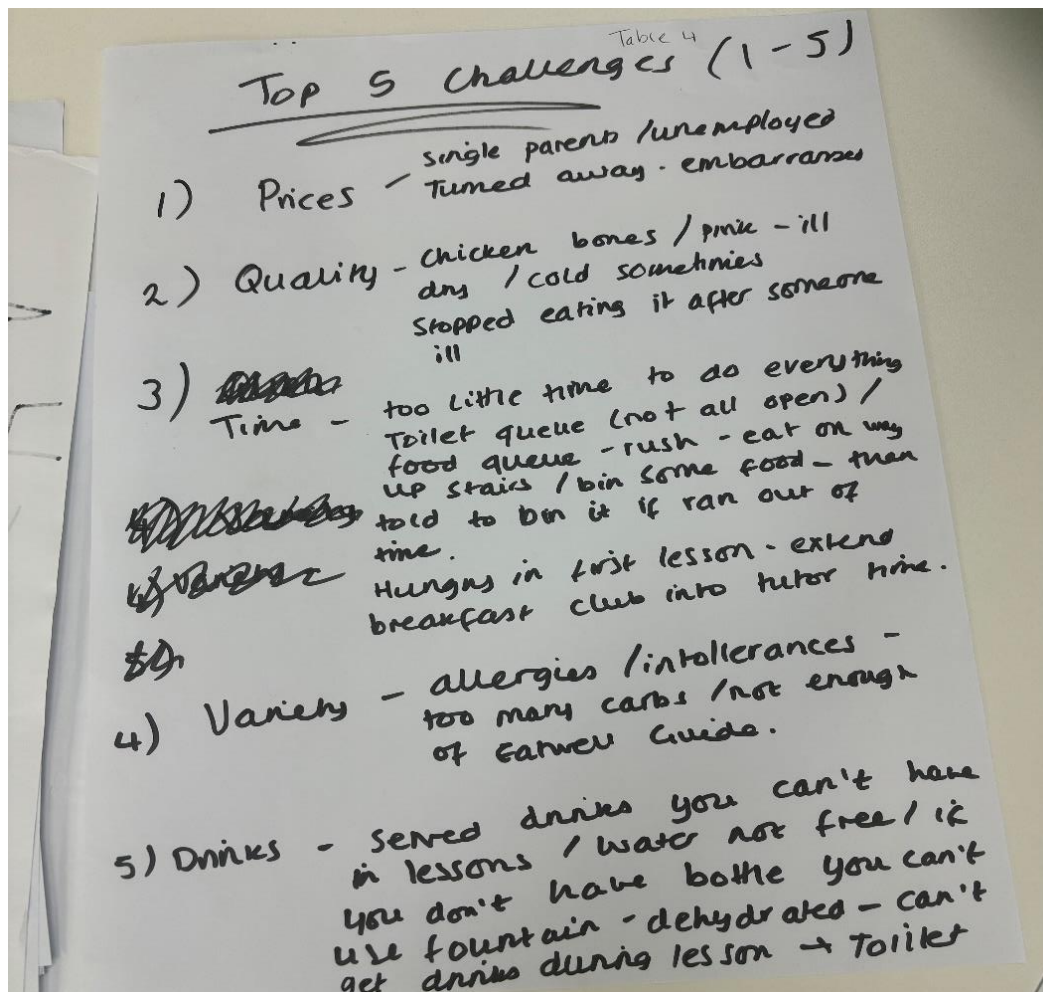


Figure 10: Top Five Challenges – Each group of young people were asked to identify and select their top five challenges in relation to their school food experience after doing the Day in the Life exercise.

**Design Brief**

**GOAL**

What would you like to achieve? What are the needs you are trying to address?

Improve variety of the food and the portion size. (Cultures prices) Quality, nutrition.

**WHO**

Who are you designing for? Who needs things to be different or better?

for year 9 to try different types of foods., tastier  
easier for the teachers to teach us.

**REASON**

Why is this change important? Why will meeting this goal make a difference to the person you are designing for?

gives you more energy.  
Less tired  
more engaged.

**CHALLENGE**

What currently makes this difficult to achieve? Will this change make things more difficult for someone else?

not enough staff  
food standards.  
Too many students not enough staff.  
more work for the dinner staff.

Figure 11: Young people were asked to produce a Design Brief to help guide their idea generation based on what they thought were the most important issue to address after reviewing the Day in the Life of School in Relation to Food exercise.

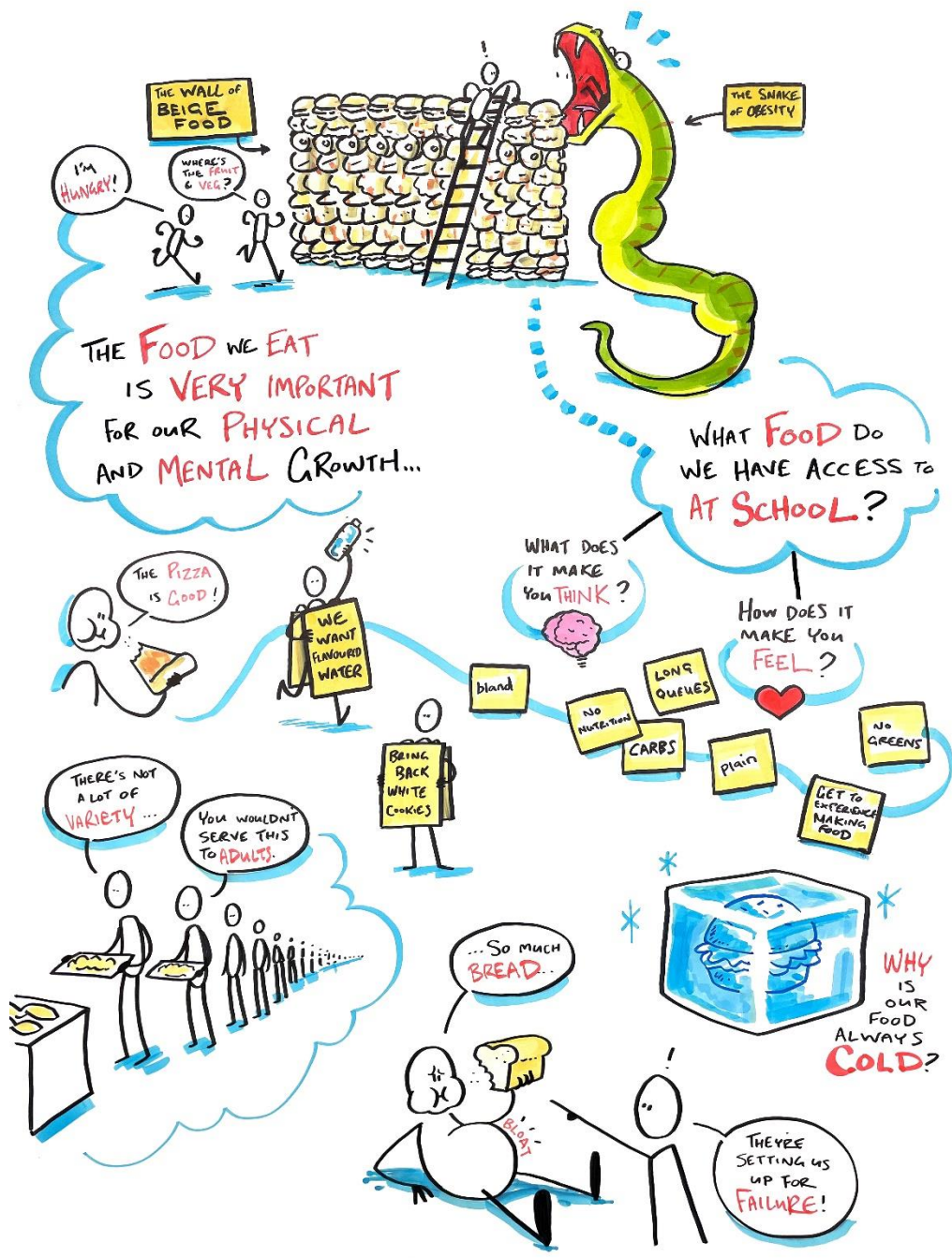


Figure 12: Visualised summary of the discussions with young people around their experiences with food in school.

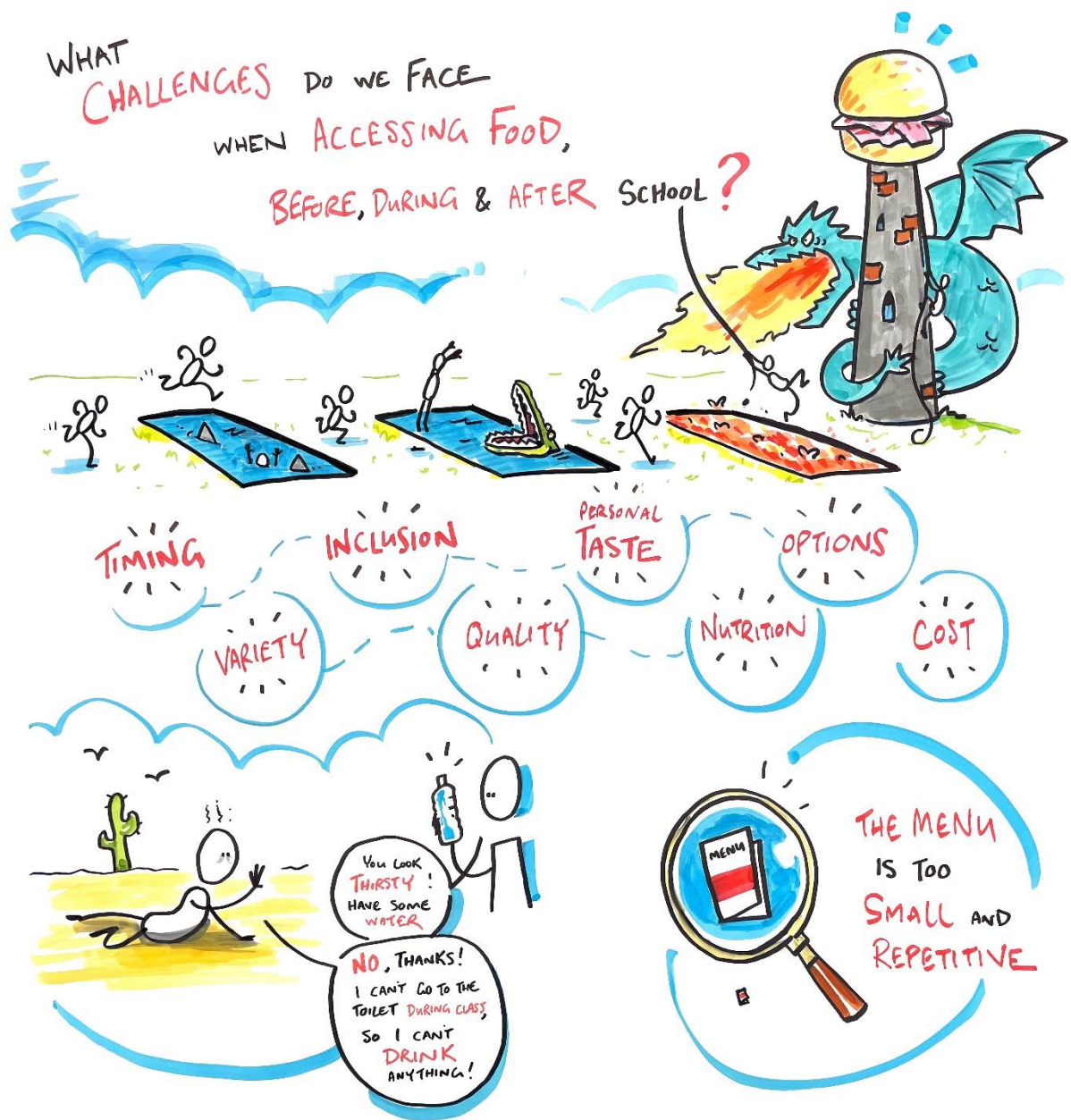


Figure 13: Visualised summary of the challenges perceived by the young people based on their experiences in school.



Figure 14: Visual highlighting the challenge of having standard portion sizes.

The first day workshop ended with the third stage of the Double Diamond's framework, *Develop*. Young people, working in groups, were asked to produce ideas of alternate school food systems that met their needs, as defined earlier in the previous activities. They were supported with various idea generation exercises such as SCAMP – which stands for Substitute, Combine, Adapt, Modify, Put in to another use, Eliminate and Reverse. This gives us seven ways to look at an existing product or service to modify and create new ideas.

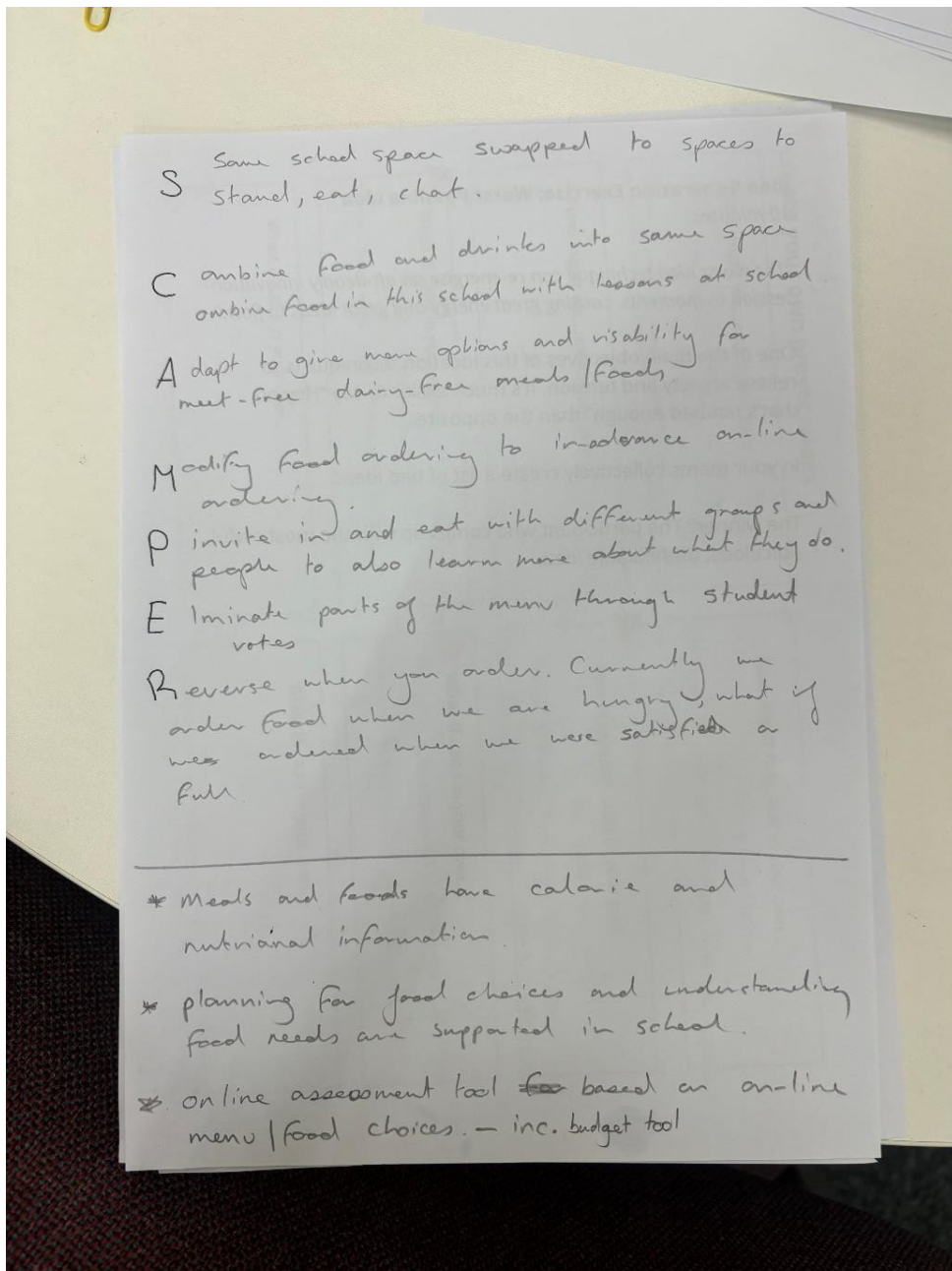


Figure 15: An example of the SCAMP exercise

In parallel adult participants, working in a mixed group from different organisations and sectors, mapped out the food ecosystem system in the form of a service blueprint<sup>1</sup> for delivering food into secondary schools with a specific focus on challenges both prior to, during, and at the end of the school day. The research team consolidated these ideas to inform the second day workshop.

<sup>1</sup> A service blueprint is a way to visually capture how a specific service is delivered from both the perspectives of an end-user and the service staff, starting from before, during and after the service interaction. It is a diagram that visualises the relationships between different service components, people, resources and processes that are linked to a user journey.



Figure 16: Adults working on the school food service blueprint

### **Workshop on Day 2:**

The workshop on Day 2 focused on the final *Deliver* stage, where the young people's ideas were further refined and validated through discussion and feedback from adult stakeholders. At the start of the workshop, young people were given time to further refine their ideas and prepare a presentation to the adults, whilst adults refined the food system blueprint with the additional focus on pre and after school provision and generating potential solutions to some of the problems identified (Figure 13).

### **Outcomes:**

#### **Adults**

The service blueprint produced (see Figure 17) highlighted some of the key challenges and considerations from both a service delivery perspective and from an educational perspective. One of the major challenges identified was the cost of school meals due to increased labour, food, and fuel costs. There was common agreement that the current costing model for school meals from the UK government needed to be addressed, especially as the school staff reported that they had to make



difficult decisions about whether to allow pupils to go into debt on the school's Parent Pay system, and whether the school would ultimately have to cover this debt.

There was a consensus that there was good governance and effective processes around food safety and allergies at the school. Under current DfE policy, the School Governing Body is responsible to ensure that all food provided in the school complies to School Food Standards; but most teachers thought that this aspect of monitoring required a level of expertise that may not be present on the Board of School Governors. To address this issue the Academy Trustees has a contract with Chartwells which confirms full compliance of all food provided by the catering team to school food standards and a Service Level Agreement with Durham County Council which provides a third party, termly assurance regarding catering in the school. However, there appeared to be little feedback from the onsite catering team to Chartwells head office.

Adults thought there was a missed opportunity to align school food provision with the curriculum. For example, research has shown that both the timing, and what foods are eaten for breakfast effects cognition, and in particular performance on high cognitive load tasks (Defeyter et al., 2024). So, planning the timing of school breakfast and break time to maximise cognitive processing and performance in high cognitive load subjects taught across the morning period would maximise cognition and learning. The timing of breakfast and or school break to maximise learning must also consider adolescent sleep patterns. Our sleep system does not fully mature until we are in our mid-twenties and during this time, especially in deep sleep, we are still growing with the release of growth hormone. Also, we are stabilising our immune system to fight disease, keeping our hormones in balance, and helping to maintain good emotional health and create long term memories. When we hit puberty our natural body clock tends to drift towards later in the evening. As such we want to go to bed later and get up later. That happens even though we still need lots of sleep to help us keep our mind and body healthy. The adults thought that providing young people with expert advice on how to try to get a good night's sleep would be good (e.g. avoid using electronics late into the evening and certainly set a time to start winding down; try to avoid caffeine and energy drinks about 8 hours before you intend to sleep). Adults acknowledged that some young people may still struggle with a morning routine and may not wish to eat in the morning prior to starting school. Under such circumstances, the break time would act as 'breakfast,' and lunch could be served later in the day (or at least the last sitting) and there was discussion about adjusting the time of these services, but careful consideration is required to explore unintended consequences as a trial in the North East of England a number of years ago had not driven the desired, positive outcomes.

Adults also raised the challenge of how to increase fibre, and lower sugar, intake in young people's diets and there was considerable discussion on how to support pupils in making healthier food choices, alongside the role of the school and out of school environment in supporting such food

choices (i.e. acknowledging that food choices are often structurally driven). Adults thought that further work needs to be done on developing an integrated approach, within school, the home and the wider environment regarding ‘junk’ food and advertising, especially the use of gorilla marketing via social media.

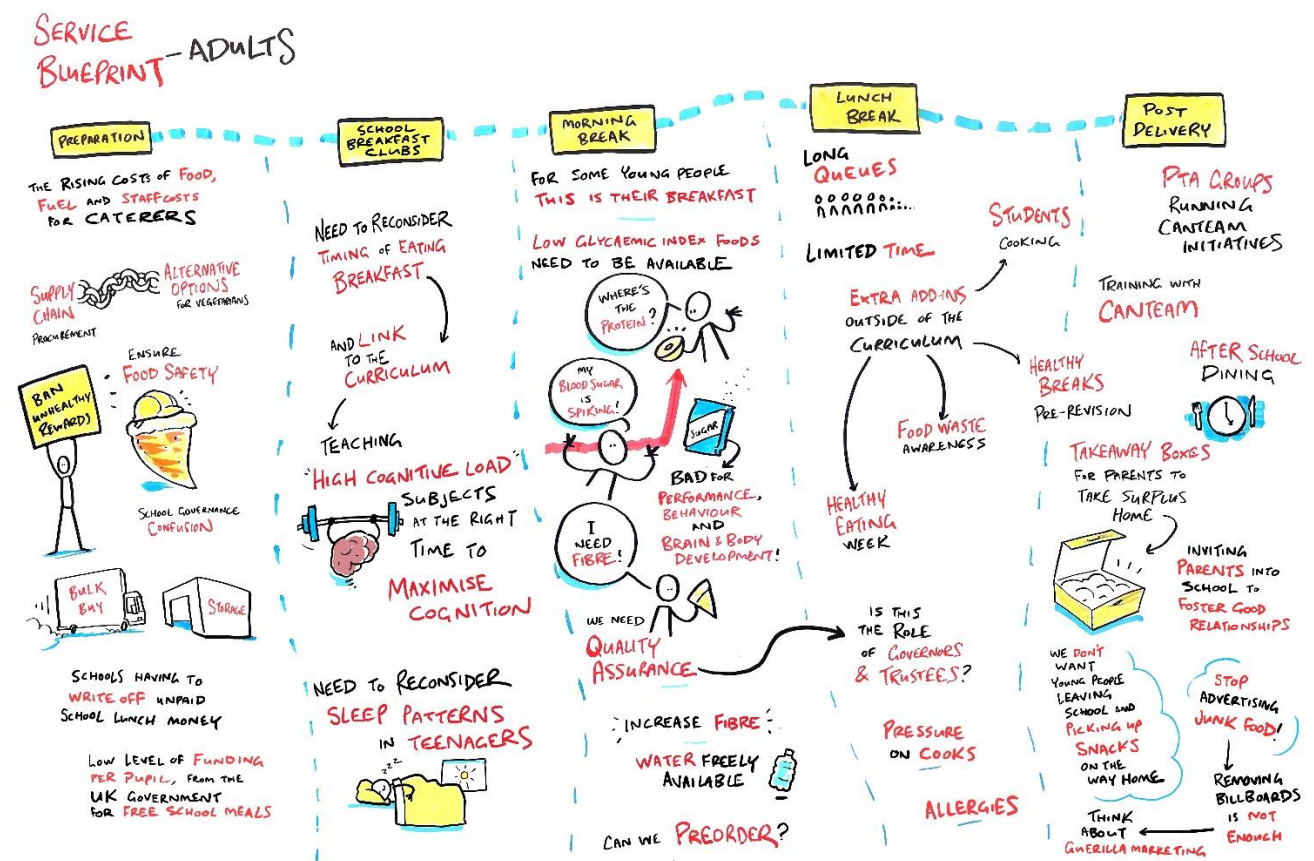


Figure 17: A simplified service blueprint developed by the adults

Based on the food photos displayed on the Wall of Food, adults thought it would be a good idea to map the dietary intake of pupils across the school day, rather than focussing on each individual food experience separately. To illustrate, a pupil could choose to eat bagels at the school breakfast club, a sausage sandwich for break, and a sandwich for lunch. Increased dietary awareness supported through food tech lessons may be a promising avenue to explore further so that pupils can make better informed food choices.

The fact that the school was in an area of high, multiple deprivation resulted in many families facing multiple challenges within their own households and community and this was recognised by all adults. School staff spoke about how some of the challenges that pupils and their families face outside of school affect how pupils, and parents, engage with, and experience school. As the research focused primarily on food, the fact that many families experience medium to high levels of food insecurity was discussed, and the school staff spoke about how food insecurity was a primary driver in their decision to introduce a school breakfast club into the school. The group also identified an opportunity

to run after school activities around food with the PTA groups, which would use surplus food and provide a relational dining experience, thus supporting both pupils and their wider families whilst at the same time building relational capital between the school and the home.

### **Young People**

The young people's ideas were presented to the adults for feedback and the final activity involved young people and adults working collaboratively to refine these ideas taking into account the existing food ecosystems in place mapped by the adults earlier in the day.

There were some common themes emerging from the ideas that young people developed: **choice, costs, quality and time and drinks (see figures 18-22)** Ideas around choice focused on offering pupils more cuisine options across the week that included providing food from different cultures as well as broader choices to meet a range of dietary requirements, with the suggestion that food labelling was clear and easy to read. Portion sizes were identified as an issue since there seem to be little differentiation between portion sizes according to chronological age. Young people also identified challenges around the costs of food items and made suggestions for more meal deal options that might include more fruit and vegetables. In terms of choice, young people expressed a desire to work with the school and the catering team to co-develop school food menus for breakfast, break time, lunch and after school activities.

The school operates a cashless payment system for school food that only parents can access and top-up. Whilst this system was introduced to eliminate stigma there are several issues with how this system has been implemented in the school. First, pupils only know how much money is in their account when they enter the food environment. Second, in cases where their credit is low, they have no way of topping up their account at school. Third, other pupils can see the account balance of the young person standing in front of them in the queue. Finally, all the young people thought that it was socially unjust that pupils on free school meals had any remaining credit on their account wiped at the end of each day; especially as any FSM credit cannot be rolled over and the credit cannot be spent at breaktime. Also, the idea of providing pupils access to Parent Pay via the school Intra-web or APP was suggested as an effective way for pupils to be able to check their balance prior to entering the dining areas and thus reducing stigma and embarrassment.



Figure 18: Ideas generated to reduce queues, and reduce food waste through a pre-order app

Suggestions to offer free water across the school day were put forward as a cost saving mechanism for the pupils, while being more sustainable than using single use plastic water bottles. Although there are a number of water fountains located on the school premises, the queues for these fountains were often long and water is dispensed into a small cup. Pupils favoured the idea of the school issuing them with a refillable, sustainable water bottle during induction to the school, and it would then be the pupils' responsibility to replace the bottle if lost. A number of Year 11 pupils asked for additional school toilets to be opened so that they would not be concerned about drinking water at break time or lunch time.

Long queues during lunch and break times were a common issue, and pupils suggested having a pre-order APP that would help them to make more considered food choices, be able to see their school meal budget at any time, help reduce food waste, and reduce the length of queues. Young people were also keen to use their Food Tech lessons to research and suggest new school food menus that would appeal to young people. The young people also put forward a number of ideas on how to gamify and incentivise uptake of 'healthier' food options. The research team understand that the Trust has trialled a 'pre-ordered' APP in the past with little success due to low uptake. However, it is not clear how

much involvement pupils had in this decision, and our prior research suggests that actively involving pupil voice is an effective way of ensuring that products meet the needs of pupils and school staff.

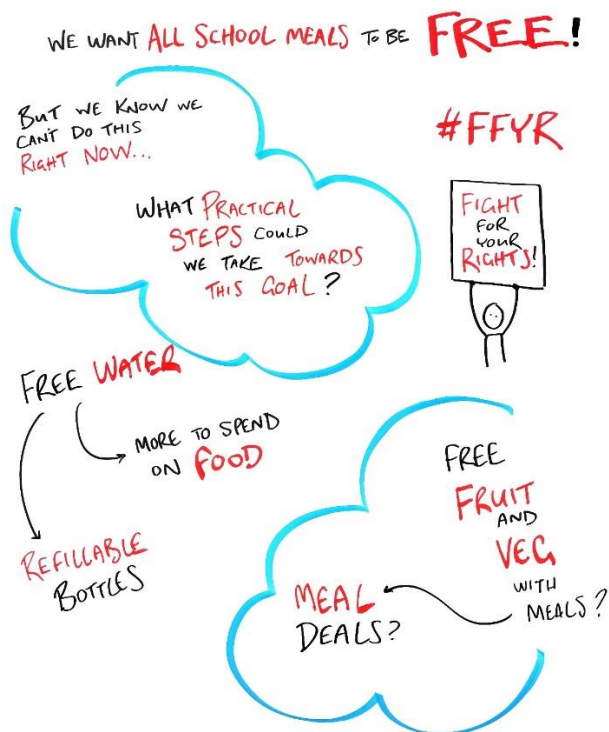
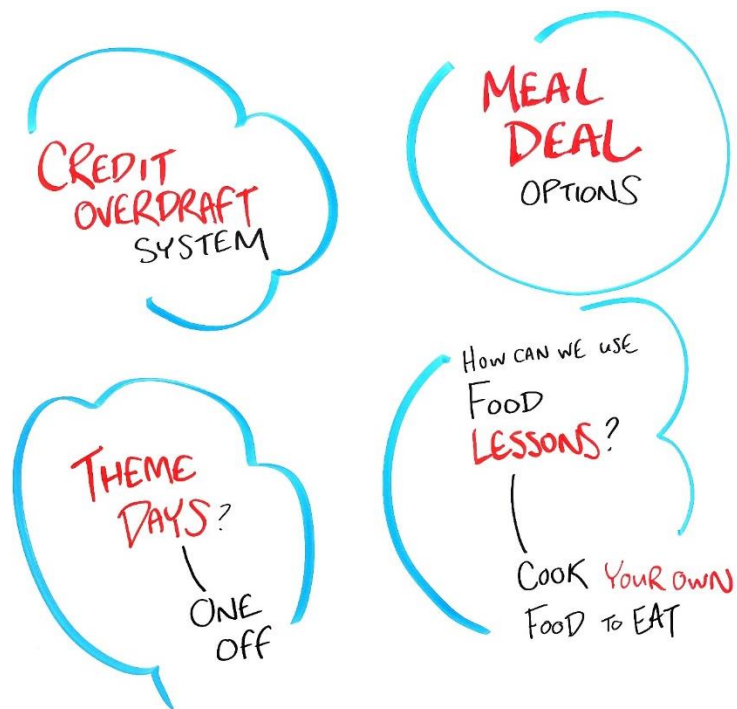


Figure 19: Ideas generated by young people on how to improve access and reduce costs

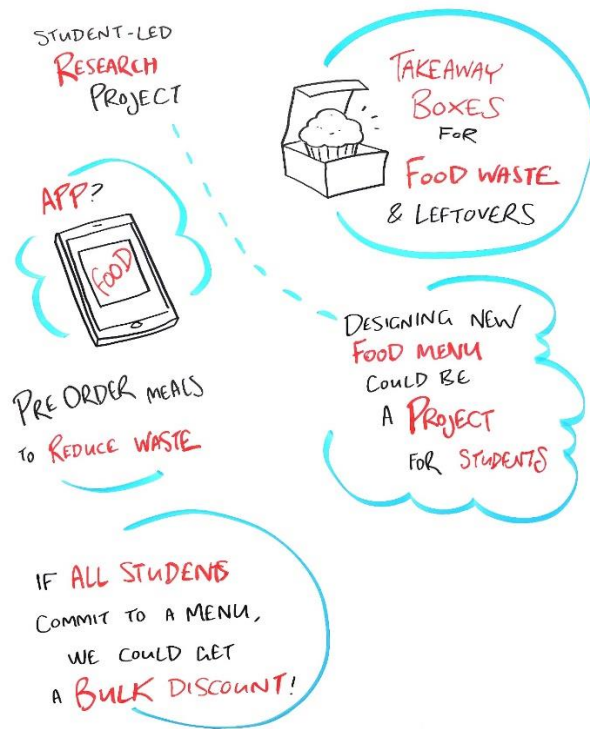


Figure 20: Ideas generated by the young people to help reduce waste whilst offering food top-up for pupils needing a larger portion and considering cost savings through bulk buying of produce.

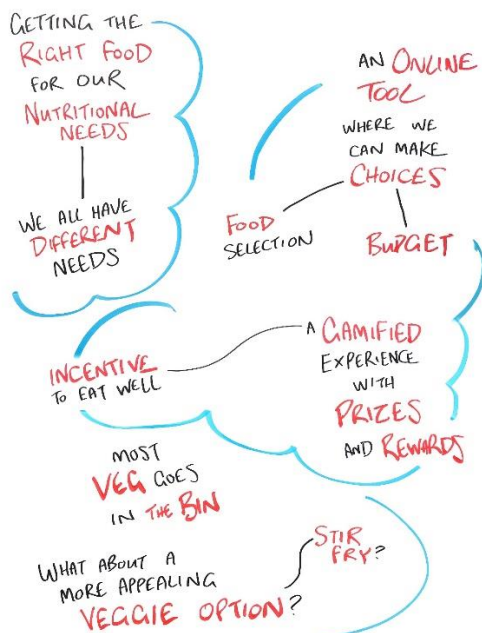
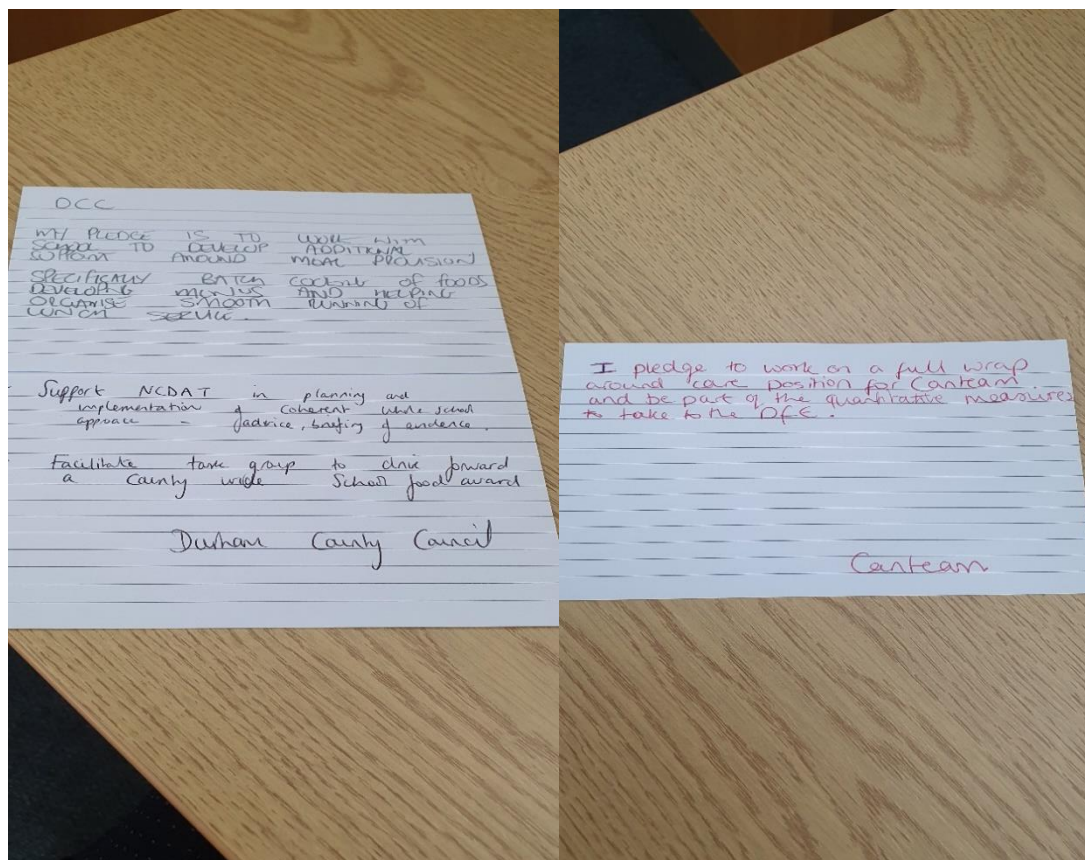


Figure 21: Ideas generated by the young people around personal choices and food requirements, and ways to incentivise healthier options.



Figure 22: The second day workshop ended with refined co-design ideas representing different ways in which food could be accessed and served to secondary school pupils across the school.

Finally, all participants were asked to write at least one pledge resulting from the two workshops to turn these insights into an actionable point for the participants (Figures 23-26).





B+E Back.

After the workshop I will look at how a similar programme could be rolled out to lots of schools.

Chartwell - Mej.

- ① Set up a process for gathering regular feedback from students nationally
- ② Look at feasibility of ~~food~~ surplus food waste to go to students
- ③ Scoping session with app and Trust.

Scope out research into lifecycle of student nutrient profiles, sleep, cognitive etc + tailor the offer accordingly to it

To work more closely with catering team to intergrate into food curriculum.

(Planning Tasting) into Lessons

NCDAT / School.

- 1) I will involve students in the development of the menu.
- 2) I will build a small credit balance onto parent pay

Figures 23 & 24: Adult participant pledges

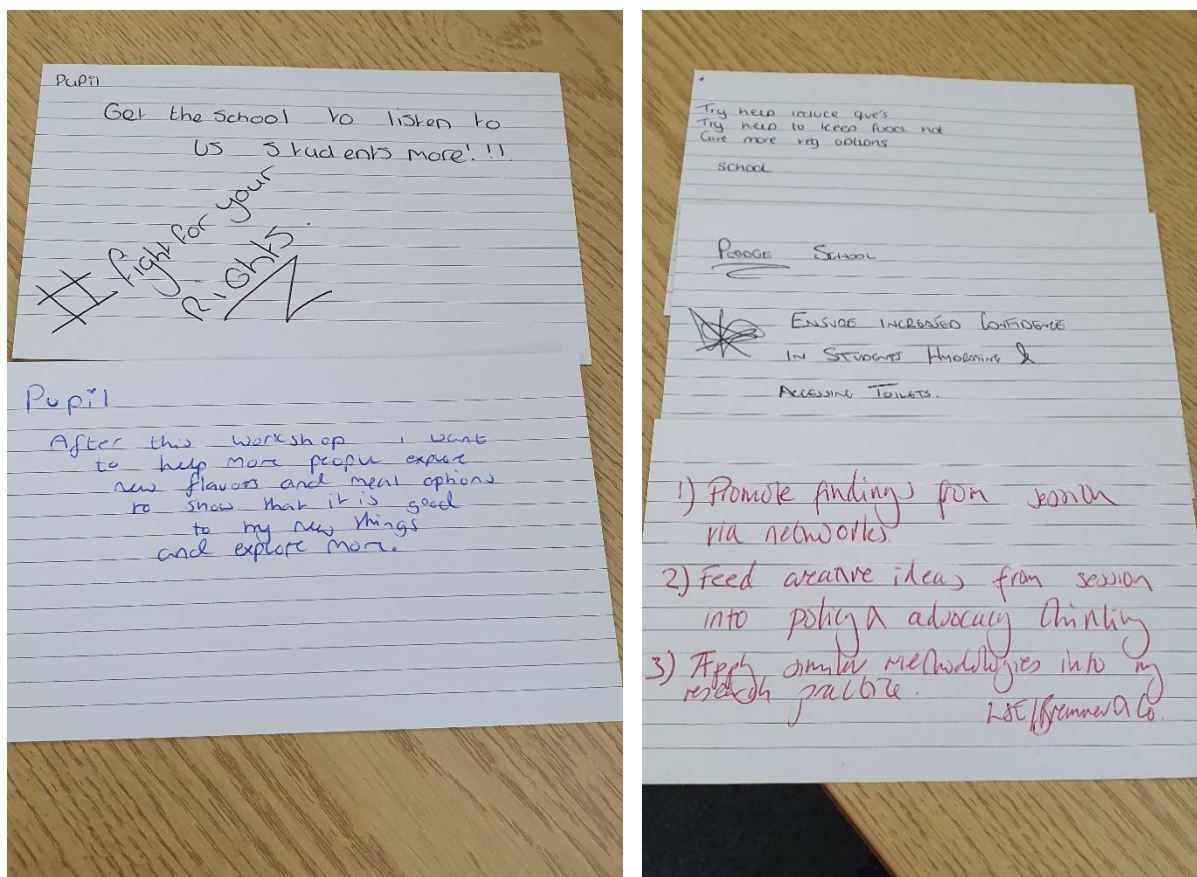


Figure 25 & 26. Young people's pledges and adult/school participant pledges

The research team from the Healthy Living Lab have already actioned one of their pledges by conducting this research project and writing this report at no cost to the school or trust. This work was undertaken as part of the University's programme of widening participation and social mobility. Mr Gray, the Head Teacher, has already acted on increasing the availability of school toilets for Year 11 pupils, with a third set of toilets being opened in September for Year 11 students to use to promote independence and to support their studies. The school and the trust have committed to continue to collaborate with pupils and partners on the other matters raised in this report. Future Foundations have committed to integrating learning from this report into their future CanTeam after school social dining events run by young people and open to their friends and families. They have also taken steps to explore the potential to offer CanTeam breakfast clubs run by young people following participation in the co-design workshop. Bite Back have committed to exploring ways of working with the research team to reach a wider school audience.

Given the positive energy in the room, we are sure that others, including pupils, will action their pledges too.

## **Summary:**

The two-day co-design workshop was aimed at helping the school and relevant stakeholders improve school meal uptake and individual food choices to support pupil's health, wellbeing, attendance, and educational attainment. The ideas generated covered a broad range of concerns faced by young people in the school. While they may not be applicable to other contexts, we can learn from the approach in bringing together and listening to the voices of young people, school staff and key stakeholders to help move towards a school food system that contributes to pupil's health and wellbeing, and educational attainment.

We would like to thank all attendees for their participation in the workshops and for their time commitment and knowledge exchange; especially for those who travelled and stayed overnight in County Durham. Your commitment to supporting this research project and your long-standing commitment to improving the health and educational outcomes for young people through working with schools is highly commendable. Special thanks must go to all the young people who attended the workshops, and without whose expertise and creativity this report would not have been possible. Thanks also to Dr Kelly Rose, Mr Mark Gray and Mr Andy Collishaw for organising and hosting the workshops and to the school catering team for going the extra mile to provide all attendees with breakfast and lunch across both days. Finally, we would like to thank Ben Nightingale for working as our brilliant illustrator and Professor Jason Ellis for his excellent advice on adolescent sleep. We sincerely thank you all for your contribution.

## **Adult Attendees**

Professor Greta Defeyter - Northumbria University

Professor Joyce Yee – Northumbria University

Dr Nick Spencer – Northumbria University

Dr Emily Round – Northumbria University

Rosie King – Northumbria University

Mark Gray – Head Teacher, North Durham Academy

Andy Collishaw – NCDAT, Chief Operating Officer

Graeme Powley – Personal Development Lead, North Durham Academy

Rebecca Middler – Food Teacher, North Durham Academy

Leighanne Foster – School Cook, North Durham Academy

Dr Kelly Rose – Advanced Practitioner for Healthy weight, Policy and Place at Durham County Council

Stuart Thompson – Catering Support Services Officer, Durham County Council

Meg Longworth – Director of Nutrition and Sustainability, Chartwells

Shenel Shefik – Future Foundations, CanTeam

Abigail Page – PhD student at the London School of Economics and Political Science

Daniel Gallacher – Head of Programmes, Bite Back

Ben Nightingale- Creative Director, Babatat Studio

## **References:**

- Attree, P., French, B., Milton, B., Povall, S., Whitehead, M., & Popay, J. (2011). The experience of community engagement for individuals: a rapid review of evidence. *Health & social care in the community*, 19(3), 250-260.
- Chefs in schools (2021). School lunch and child health, behaviour and attainment. Available online: <https://chefsinschools.org.uk/wp-content/uploads/2022/08/School-Lunch-Health-Behaviour-Attainment-A4.pdf>
- Cohen, J. F., Scott, M., Sutton, M., Cueva, K., Shonkoff, E. T., Goldman, R. E., ... & Stock, M. (2021). A mixed-methods evaluation of a school wellness initiative: An examination of longer lunch periods and more physical activity opportunities. *Journal of the Academy of Nutrition and Dietetics*, 121(10), 1961-1974.
- Day, R. E., Sahota, P., Christian, M. S., & Cocks, K. (2015). A qualitative study exploring pupil and school staff perceptions of school meal provision in England. *British Journal of Nutrition*, 114(9), 1504-1514.
- Defeyter, M.A., Bundy, D., Bremner, M., Page, A. (2023). Hunger in the Classroom in Routledge *International Handbook on Equity and Inclusion in Education*. Downes, P., & Li, G. (Eds). Routledge.
- Defeyter, M.A., Stretesky, P., & Capstick, N. (2023). London's Universal Free School Meals provision could come at a cost to primary schools. <https://northumbria-cdn.azureedge.net/-/media/services/research-and-innovation-services/holiday-activities-and-food/school-meals-and-pupil-premium-hungry-for-change-briefing.pdf?modified=20230608162702>
- Defeyter, M.A., Yee, J., Spencer, N., Brownlee, I., Fothergill, M., & Lawrence, J. (2022). Co-designing a Holiday Activities and Food Plus Framework, with Secondary School Aged Pupils and Experts, for Holiday and Out of School Provision for 11–16-year-olds. Northumbria University. <https://northumbria-cdn.azureedge.net/-/media/services/research-and-innovation-services/holiday-activities-and-food/haf-event-box-2/haf-plusfinal.pdf?modified=20230502161518>
- Defeyter, M.A. (2021). Holiday Programmes: Activities and Food. Available online: <https://www.hafalliance.org/wp-content/uploads/2021/03/Northumbria-University-Holiday-Programmes-Activities-and-Food-research.pdf>
- Design Council (2004). Double Diamond Framework. Available at: <https://www.designcouncil.org.uk/our-resources/the-double-diamond/>

- Dimbleby, H. & Vincent, J. (2013) 'The School Food Plan'. Department for Education. Available at [www.schoolfoodplan.com](http://www.schoolfoodplan.com)
- Dimbleby, H. (2021) 'National Food Strategy - THE PLAN'. National Food Strategy. Available at <https://www.nationalfoodstrategy.org>
- Eddy, L., Bryant, E., Daly-Smith, A., Bryant, M., Chalkley, A., Chawner, S., Copely, C., Defeyter, M.A., Fildes, A., et al. (2024). A country that works for all children and young people: An evidence-based plan for supporting physical activity and healthy nutrition with and through educational settings. [https://www.n8research.org.uk/media/CoTN\\_Physical-Activity-Nutrition\\_Report\\_5.pdf](https://www.n8research.org.uk/media/CoTN_Physical-Activity-Nutrition_Report_5.pdf)
- Ensaff, H., Canavon, C., Crawford, R., & Barker, M. E. (2015). A qualitative study of a food intervention in a primary school: Pupils as agents of change. *Appetite*, 95, 455-465.
- Ensaff, H., Crawford, R., Russell, J. M., & Barker, M. E. (2017). Preparing and sharing food: a quantitative analysis of a primary school-based food intervention. *Journal of Public Health*, 39(3), 567-573.
- Evans, C.E.L., Melia, K.E., Rippin, H.L., Hancock, N., & Cade, J. (2020). A repeated cross-sectional survey assessing changes in diet and nutrient quality of English primary school children's packed lunches between 2006 and 2016. *BMJ Open* 10 (1) e029688. doi:10.1136/bmjopen-2019-029688
- Farmer, J., Taylor, J., & Stewart, E. (2018). Citizen participation in health services co-production: a roadmap for navigating participation types and outcomes. *Australian Journal of Primary Health* 23(6), 509-515. <https://doi.org/10.1071/PY16133>
- Future Foundations Play Verto CanTeam Survey (2023). [https://www.future-foundations.co.uk/wp-content/uploads/2024/02/CanTeam-Play-Verto\\_Stakeholder-Report.pdf](https://www.future-foundations.co.uk/wp-content/uploads/2024/02/CanTeam-Play-Verto_Stakeholder-Report.pdf)
- Gaver, B., Dunne, T., & Pacenti, E. (1999). Design: Cultural probes. *interactions* 6, 1 (Jan./Feb. 1999), 21-29. <https://doi.org/10.1145/291224.291235>
- Golley, R., Baines, E., Bassett, P., Wood, L., Pearce, J., & Nelson, M. (2010). School lunch and learning behaviour in primary schools: an intervention study. *European journal of clinical nutrition*, 64(11), 1280-1288.
- Graham, P. L., Russo, R., Blackledge, J., & Defeyter, M. A. (2014). Breakfast and beyond: the dietary, social and practical impacts of a universal free school breakfast scheme in the North West of England, UK. *International Journal of sociology of agriculture and Food*, 21(3), 261-274.

- Hart, C.S. & Page, A. (2020) ‘The capability approach and school food education and culture in England: ‘gingerbread men ain't gonna get me very far’’, *Cambridge Journal of Education*, 50(6), 673–693. doi:10.1080/0305764X.2020.1764498.
- Holford, A., & Rabe, B. (2020) Impact of the Universal Infant Free School Meal Policy. Colchester: Institute of Social and Economic Research
- Lalli, G., Smith, K., Woodside, J., Defeyter, G., Skafida, V., Morgan, K., & Martin, C. (2024). A brief review of Secondary School Food Policy (SSFP) approaches in the UK from 2010 to 2022. *Nutrition & Food Science*, 54(2), 433-450.
- McGrath, S., Gavin, M., Stacey, M., & Wilson, R. (2022). Collaborating for policy impact: Academic-practitioner collaboration in industrial relations research. *Journal of Industrial Relations* 64,5, 759-784. <https://doi.org/10.1177/00221856221094887>
- Rose, K., O’Malley, C., Lake, A. A., & Lalli, G. S. (2023). ‘Doing school food!’: a practical toolkit for adopting a whole school food approach. *Perspectives in Public Health*, 17579139231185302.
- Spence, S., Delve, J., Stamp, E., Matthews, JNS., White, M. & Adamson, AJ. (2014) Did School Food and Nutrient-Based Standards in England Impact on 11–12Y Olds Nutrient Intake at Lunchtime and in Total Diet? Repeat Cross-Sectional Study. *PLoS ONE* 9(11): e112648. doi:10.1371/journal.pone.0112648
- Stevens, L., Nicholas, J., Wood, L. & Nelson, M. (2013) ‘School lunches v. packed lunches: a comparison of secondary schools in England following the introduction of compulsory school food standards’, *Public Health Nutrition*, 16(6), 1037–1042. doi:10.1017/S1368980013000852.
- Storey, H. C., Pearce, J., Ashfield-Watt, P. A. L., Wood, L., Baines, E., & Nelson, M. (2011). A randomized controlled trial of the effect of school food and dining room modifications on classroom behaviour in secondary school children. *European journal of clinical nutrition*, 65(1), 32-38.
- Walker T.J, Craig D.W, Pavlovic A., Thiele S., Natale B., Szeszulski J., et al. (2021) Physical activity and healthy eating programming in schools to support student’s health-related fitness: An observational study. *Int J Environ Res Public Health*;18(21):11069.
- World Food Programme (2022). State of School Feeding Worldwide 2022. <https://www.wfp.org/publications/state-school-feeding-worldwide-2022>

